Missouri Assessment Program
Spring 2004

Science

Anchor Papers for Released Items

Grade 10

3 Points

1-2

The three main particles that make up a neutral atom each have mass and either a positive (+), negative (-), or neutral (0) charge.

List the three main particles found in a neutral atom.

1. proton - +
2. neutron – 0
3. electron -

Show the charge on each of these particles by writing a symbol (+, -, or 0) to the right of its name.

Circle the name of the particle that has the least mass.

Score Pt. 3
3 Key Elements
Electron, proton, neutron
With electron, + with proton, 0
With neutron
Electron is circled

101446

2 Points

1-2

The three main particles that make up a neutral atom each have mass and either a positive (+), negative (-), or neutral (0) charge.

List the three main particles found in a neutral atom.

1. proton - +
2. neutron – 0
3. electron -

Show the charge on each of these particles by writing a symbol (+, -, or 0) to the right of its name.

Circle the name of the particle that has the least mass.

Score Pt. 2
2 Key Elements
Electron, proton, neutron
With electron, + with proton, 0
With neutron
Electron is not circled

099946

1 Point

1-2

The three main particles that make up a neutral atom each have mass and either a positive (+), negative (-), or neutral (0) charge.

List the three main particles found in a neutral atom.

1. electron +

2. proton -

3. neutron 0

Show the charge on each of these particles by writing a symbol (+, -, or 0) to the right of its name.

Circle the name of the particle that has the least mass.

Score Pt. 1
1 Key Element
Electron, proton, neutron
[- NOT with electron, +NOT with proton, 0 with neutron]
[electron is NOT circled]

095629

0 Points

1-2

The three main particles that make up a neutral atom each have mass and either a positive (+), negative (-), or neutral (0) charge.

List the three main particles found in a neutral atom.

1. nucleus – +

2. vacuole – -

3. centrioles – 0

Show the charge on each of these particles by writing a symbol (+, -, or 0) to the right of its name.

Circle the name of the particle that has the least mass.

Score Pt. 0
0 Key Elements
[NOT electron, proton, neutron]
[-NOT with electron, + NOT with proton, 0 NOT with neutron]
[electron is NOT circled]

100499

1 Point

1-6

Former, doctors were limited to using X-rays to study the insides of patients. Recently, doctors have been able to obtain images of the insides of patients using Magnetic Resonance Imaging (MRI).

Describe one advantage of using Magnetic Resonance Imaging for examining patients compared to using X-rays.

You don't have the high risk of radiation with the MRI.

Score Pt. 1
1 Key element
Lower risk of radiation

106863

0 Point

1-6

Former, doctors were limited to using X-rays to study the insides of patients. Recently, doctors have been able to obtain images of the insides of patients using Magnetic Resonance Imaging (MRI).

Describe <u>one</u> advantage of using Magnetic Resonance Imaging for examining patients compared to using X-rays.

<u>More comfortable</u>

Score Pt. 0
0 Key element
[incorrect response]

100886

1 Point

1-15

Jupiter is the largest planet in our solar system.

Explain why Jupiter might have become a star if it had had more mass and had been larger when it was first formed.

Because the more mass it would have had, the more gravity it would have created. This would cause a great amount of heat because of the condensed gases and probably would have collapsed in on itself igniting a self sustaining fusion reaction.

Score Pt. 1
1 Key element
More gravity leading to collapse leading to fusion reaction-correct

222173

0 Point

1-15

Jupiter is the largest planet in our solar system.

Explain why Jupiter might have become a star if it had had more mass and had been larger when it was first formed.

Jupitor might have become a star if it had had more mass and had been larger when it was formed because then it would not be the largest planet in our solar system.

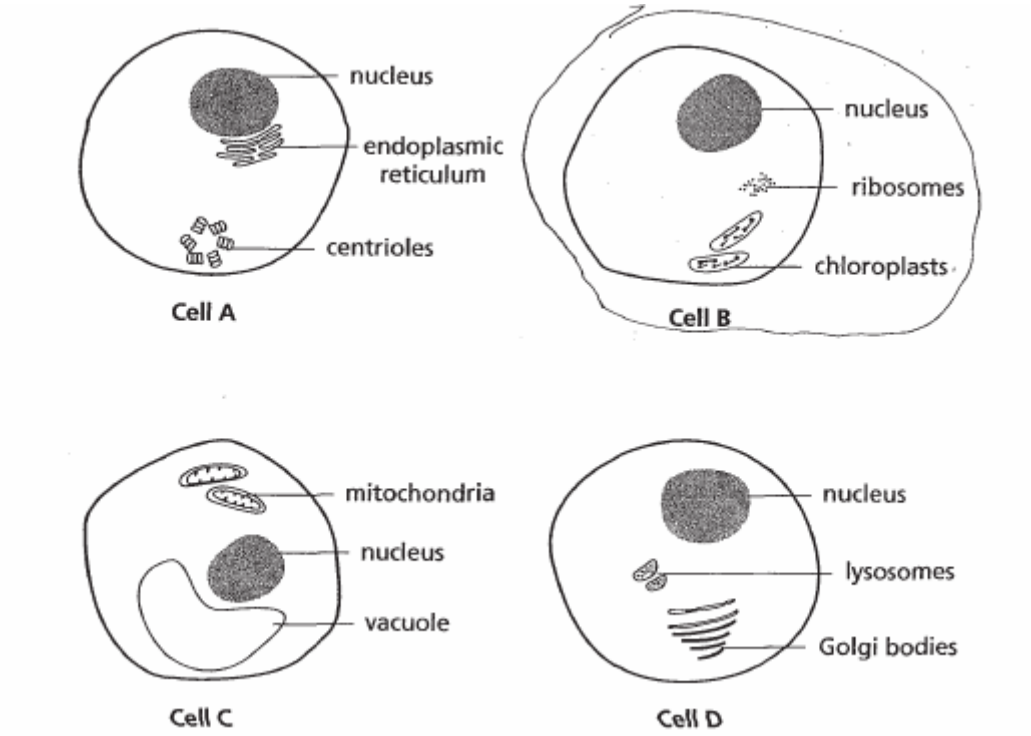
Score Pt. 0
0 Key elements
>[Basically repeats prompt]

100279

1 Point

3-30

Circle the diagram that depicts a cell capable of making sugar.



Explain your answer.

Cell B has chloroplasts in it and that makes sugar.

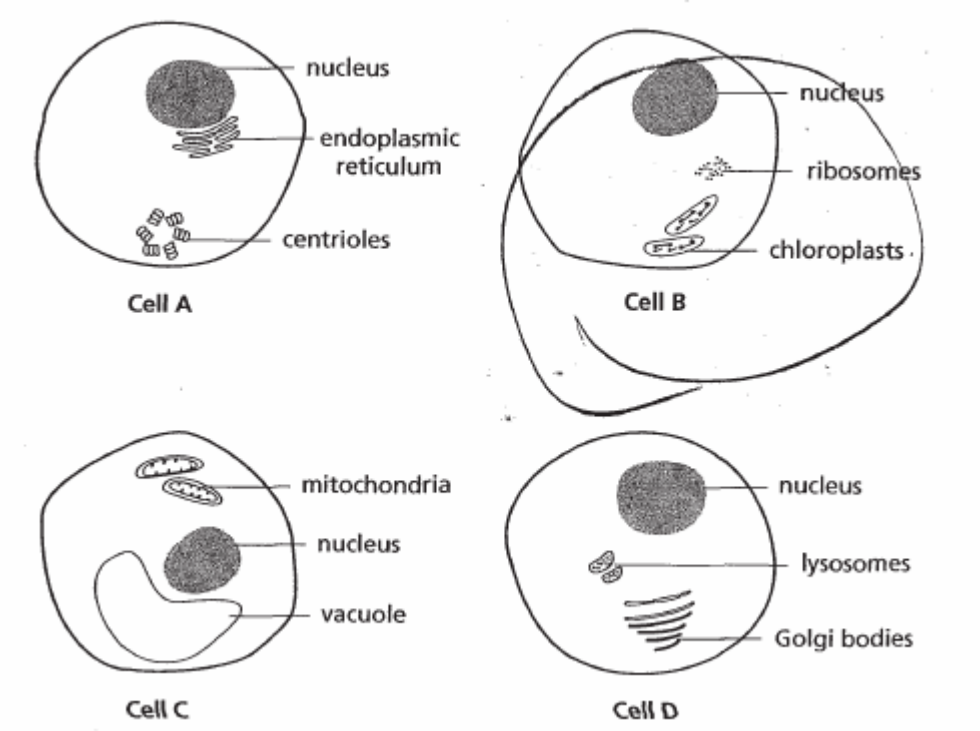
Score Pt. 1
1 Key element
>Cell B AND chloroplasts

100807

1 Point

3-30

Circle the diagram that depicts a cell capable of making sugar.



Explain your answer.

Score Pt. 0
0 Key elements
[cell B but NOT chloroplasts

101694